UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
NORTHERN DIVISION

INTERMODAL TECHNOLOGIES, INC.,

Plaintiff,

v.

Case Number 06-12282-BC
Honorable Thomas L. Ludington

MARY E. PETERS, in her capacity as SECRETARY OF TRANSPORTATION, and NICOLE R. NASON, in her capacity as ADMINISTRATOR OF THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION,

Defendants.
_____ /

OPINION AND ORDER GRANTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT, DENYING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT AND DISMISSING CASE

I.

A.

Plaintiff Intermodal Technologies, Inc. (Intermodal) challenges the decision of the defendants, the Department of Transportation and the National Highway Safety Administration (NHTSA), denying Intermodal's application for an exemption from certain Federal Motor Vehicle Safety Standards promulgated by NHTSA governing antilock brake systems for, among other things, large trucks with trailers. *See* 49 U.S.C. § 30113; 49 C.F.R. § 571.121. Intermodal would like to market truck trailers that are equipped with antilock brakes and certain warning features in conformity with the National Traffic Motor Vehicle Safety Act and implementing regulations *See* 49 C.F.R. § 571.121. Intermodal has chosen to outfit its trailers with a non-electronic, pneumatic airbrake system for trucks and trailers called the MSQR 5000 made by Air Brake Systems, Inc.

(ABS, Inc.) and believes that the MSQR-5000 complies with Safety Standard 121. ABS, Inc. is owned by the same individual who owns Intermodal, William Washington. This opinion arises specifically from Intermodal's unsuccessful efforts to obtain an exemption from the warning light features of Safety Standard 121 promulgated by NHTSA.

Congress passed the National Highway Traffic Safety Act, 49 U.S.C. §30101 *et seq.* (the Act), in an effort "to reduce traffic accidents and deaths and injuries resulting from traffic accidents." 49 U.S.C. § 30101. To that end, NHTSA was delegated authority to promulgate and enforce Federal Motor Vehicle Safety Standards, which set minimal safety requirements for new motor vehicles. 49 U.S.C. § 30101 *et seq.* The Act proscribes the manufacture and sale of vehicles that do not comply with the standards, 49 U.S.C. § 30112(a), and requires manufacturers to recall noncompliant vehicles, 49 U.S.C. 30118(c). For the most part, the statutory and regulatory framework relies on a manufacturer's self certification of its product's compliance with the Act. When the manufacturer of a new motor vehicle places the vehicle into interstate commerce, the manufacturer certifies that vehicle complies with applicable safety standards. 49 U.S.C. § 30115. If, after sale, it becomes apparent that the vehicle is noncompliant, NHTSA has the authority to direct the manufacturer to recall the vehicle after testing and notification. 49 U.S.C. § 30117.

In order to avoid a recall, manufacturers may petition the agency for an exemption if the "noncompliance is inconsequential to motor vehicle safety." 49 U.S.C. § 30118(d). If the manufacturer knows that the vehicle is noncompliant before sale, the manufacturer may petition NHTSA for a temporary exemption from a safety standard if "an exemption is consistent with the public interest" and "compliance with the standard would cause substantial economic hardship to a manufacturer that has tried to comply with the standard in good faith; the exemption would make

easier the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to the safety level of the standard; the exemption would make the development or field evaluation of a low-emission motor vehicle and would not unreasonably lower the safety level of that vehicle; or compliance with the standard would prevent the manufacturer from selling a motor vehicle with an overall safety level at least equal to the overall safety level of nonexempt vehicles." 49 U.S.C. § 30113(b)(A)(B)(i)-(iv) (internal numbering omitted).

B.

This is not Washington's first confrontation with NHTSA or Safety Standard 121. In prior litigation culminating in an appeal to the Tenth Circuit, Washington challenged, as Intermodal does in a different context in the instant action, NHTSA's promulgation of Safety Standard 121 on five grounds. *See Washington v. Dep't of Transp.* 84 F.3d 1222 (10th Cir. 1996). He contended that the standard was NHTSA's deliberate effort to exclude all antilock brake systems designs that were non-electronic by adopting design and not performance standards; the standard conflicted with operational standards for commercial motor carriers; the standard exceeded NHTSA's delegated authority; NHTSA neither evaluated nor disclosed information regarding his alternative to an electronic antilock brake system; and NHTSA published false statistical data when it decided not to evaluate his technology. The court of appeals declined to address all but the second and third contention.

In finding that Washington's contentions lacked merit, the Tenth Circuit was careful to emphasize the difficulty for NHTSA in articulating a general performance standard that might present inconsistencies in practice or application. The court explained:

NHTSA is generally charged with developing performance standards, not design

> specifications. Petitioner contends NHTSA's mandate of ABS and associated malfunction indicators transgresses this boundary on its regulatory authority. Although we do not take issue with petitioner's premise, we reject his conclusion for several reasons.
>
> First of all, the performance-design distinction is much easier to state in the abstract than to apply definitively-so as to justify judicial interference with an agency's regulatory function-in concrete situations. This is particularly true when, due to contingent relationships between performance requirements and design options, specification of the former effectively entails, or severely constrains, the choice of the latter. Such a relationship has been recognized between braking performance criteria and ABS. We would, accordingly, be hesitant to invalidate this carefully developed safety standard solely on the basis of its indefinite place on the conceptual spectrum between performance and design.

Id. at 1244 (citations omitted).

The court of appeals also concluded that although design options might be limited – perhaps even exclude, in concrete situations, a non-electronic antilock brake device – the agency still was operating under the authority delegated by Congress.

> [T]he policy behind the legislative emphasis on performance standards, which is to ensure public safety without stifling design innovation is not compromised significantly by a safety-feature regulation like § 571.121. This provision mandates only a certain type of equipment still constraining specific design choices chiefly through the preferred means of performance criteria.
> . . .
>
> ABS is broadly defined-and in predominately functional, rather than structural, terms-as "a portion of a service brake system that automatically controls the degree of rotational wheel slip at one or more road wheels of the vehicle during braking." 49 C.F.R. § 571.121 S4 (eff. until March 1, 1997); see also 49 C.F.R. § 571.121 S4 (eff. March 1, 1997)(adding further functional detail to definition).

Id. at 1225, n.2. In fact, the Tenth Circuit noted, the potential for too strict a performance standard in practice was contemplated by Congress:

> We note our treatment of the performance-design distinction is impliedly buttressed by this affirmative accommodation of "new motor vehicle safety feature[s] providing a safety level *at least equal to the safety level of the [existing] standard*." 49 C.F.R.

> § 30113(b)(3)(B)(ii)(emphasis added). If, as petitioner contends, Congress intended its emphasis on performance criteria to preclude NHTSA's mandate of particular safety features, no special exemption would be necessary for a new device meeting existing (purely performative) standards; such an exemption becomes necessary when existing standards mandate a particular type of equipment (a mandate even a performative equivalent cannot meet).

Id. at n.3. Thus, in the court's view Washington was not without remedy. He could "(1) seek an exemption to facilitate development or evaluation and (2) petition for a new safety standard incorporating the new device." *Id.* at 1225.

Later, in this Court, ABS, Inc. challenged the authority of NHTSA's acting chief counsel to issue opinion letters in response to an inquiry made by a potential customer as to whether the MSQR-5000 satisfied federal motor vehicle safety standards. *See Air Brake Systems, Inc. v. Mineta,* 202 F. Supp. 2d 705 (E.D. Mich. 2002). In the letters, the chief counsel opined that the MSQR-5000 did not satisfy the warning signal requirements of Federal Motor Vehicle Safety Standard 121 due to the fact that there are no warning signals installed on the exterior of the truck trailer. This Court found that the opinion letters, one of which was posted on NHTSA's website, did not constitute final agency action and therefore could not be reviewed under the Administrative Procedures Act. *See Air Brake Systems, Inc.*, 202 F. Supp. 2d at 712-14.

The Sixth Circuit affirmed. *Air Brake Systems, Inc. v. Mineta*, 357 F.3d 632 (6th Cir. 2004). The gist of Air Brake System's arguments both in this Court and on appeal was that NHTSA had effectively decided that its brakes do not meet federal standards and had announced that decision to potential buyers of the brakes, leaving it no opportunity to sell its brakes and no mechanism by which to challenge agency action. The result, the company stated, was a "Catch 22." *Air Brake Systems, Inc.*, 357 F.2d at 645. The court of appeals rejected that contention and noted that the Act

permitted the company to seek other forms of relief:

> In all events, Air Brake errs in suggesting it has no other options. The company remains free to show the market its confidence in the product by agreeing to indemnify a prospective manufacturer against the costs of defending any potential NHTSA action. And more importantly (and perhaps more realistically for smaller companies), the company remains free to petition NHTSA to alter Standard 121 under the agency's rulemaking powers. 49 C.F.R. § 552.3(a) ("Any interested party may file with the Administrator a petition requesting him . . . [t]o commence a proceeding respecting the issuance, amendment or revocation of a motor vehicle safety standard."). The denial of such a petition, notably, would be a final reviewable order.

Id. at 645-46. Intermodal did not petition NHTSA to alter Saftey Standard 121 under the agency's rulemaking authority. It did, however, seek an exemption under the standard, an approach, Intermodal suggests, the court of appeals made at oral argument. *See* Intermodal Mot. Summ. J. at 2 n. 4.

Intermodal's application for an exemption from Safety Standard 121, filed on January 26, 2004, however, languished and further litigation ensued. Although the NHTSA published the required notice seeking comments on Intermodal's application on July 19, 2004, the agency, despite repeated requests from Intermodal, took no action. On August 9, 2005, Intermodal filed a statutory mandamus action in this Court seeking to compel NHTSA to decide the application one way or the other. The agency maintained that it was not required to render *any* decision because, it reasoned, the statutory framework made consideration of exemptions permissive.

This Court disagreed. In an opinion dated February 7, 2006, the Court concluded that although the National Transportation Safety Act was silent on the issue of whether the agency had to render a decision on an application for an exemption, the implementing regulations in fact required NHTSA to render a decision, although the substance of that decision was left to the

discretion of NHTSA. *See Intermodal Technologies, Inc. v. Mineta*, 413 F. Supp. 2d 834, 841-42 (E.D. Mich. 2006) (reasoning that the "regulation governing the processing of applications makes clear that the agency must either grant an application or deny it, publish its decision in the Federal Register, and notify the petitioner. There is no discretionary language contained in these subsections").

On February 8, 2006, NHTSA denied Intermodal's petition for the exemption in a written opinion. Thereafter, Intermodal sought review of the agency's decision on May 19, 2006 under the Administrative Procedures Act (APA), 5 U.S.C. § 704, claiming that agency acted arbitrarily and capriciously in determining that it was not entitled to an exemption from the warning light requirements set forth in the regulations. On February 7, 2007, Intermodal filed a motion for summary judgment on the administrative record. The defendants filed a cross motion and response to Intermodal's motion on April 20, 2007. Intermodal has filed a response in opposition to the defendants' motion along with other supplemental materials.

Intermodal's papers frame three primary issues for resolution: (1) whether NHTSA acted arbitrarily and capriciously by relying on factors not required by Federal Motor Vehicle Safety Standards; (2) whether NHTSA acted arbitrarily and capriciously in interpreting the technical information and rejecting the opinions of Intermodal's experts; and (3) whether NHTSA acted arbitrarily and capriciously in not considering Intermodal's petition for an exemption under 49 C.F.R. § 556.4.

The Court heard oral argument on June 25, 2007 and now concludes that the decision by NHTSA denying the Intermodal's petition for an exemption was neither arbitrary or capricious. Therefore, the Court will grant the defendants' motion for summary judgment.

II.

The important procedural facts have been set out in detail above and will not be repeated here. Of particular note in this case is Intermodal's application for an exemption and NHTSA's subsequent denial of that application. Because of the importance of the application and NHTSA's response to the analysis of the issues before the Court, both are quoted at length below.

As noted, on January 24, 2004, Intermodal applied for an exemption from the warning light requirements set forth in the regulations. In support of its application, Intermodal stated the following:

> In 1992, the U.S. Patent Office issued patent # 5,078,455 on a device termed as a Differential Pressure Regulator Quick Release Valve in a Pneumatic Braking System. In our opinion, this devise, when joined with the normal pneumatic braking system on vehicles equipped with air brake systems, operates as an antilock brake system (ABS) as that term is defined in 49 CFR 571.121 (S4). This opinion is based on laboratory test data and field test data in the after market and Original Equipment Manufacture market. Also, we determined that this device either met or exceed all of the requirements of the performance standards of 49 CFR 571.121. This device relieves the excess pressures internally and does not vent the pressure. This opinion is also supported by the attached affidavits of John Cepican, J.D. and BS Physics, and Dr John F. Foss, PhD, Mechanical Engineering and Fluid Dynamics, and Dr. Phillip A. Corn, PhD Experimental Nuclear Physics. Additional data relevant to safety features, research and development and testing are contained in the enclosures.
>
> Our request is first based on the information published in the Federal Register by the National Highway Traffic Safety Administration, which states ". . . As NHTSA explained in promulgating the final rule, the definition of ABS 'does not require electronics for the sensing of wheel rotation or controlling signals' and that although 'it is likely that electronic systems will be used, given currently available technologies,' these 'functions could be performed using pneumatic, hydraulic, optic, or other mechanical means.'" 60 Fed. Reg. 13277.
>
> IMT will produce it trailer using "pneumatic means." Air Brake Systems, Inc., the manufacturer of the MSQR-5000 pneumatic antilock brake system, reports that there are more than 7,000 units in operation on all types of vehicles with air brakes. It is our understanding that the Acting General Counsel of the National Highway

Traffic Safety Administration (NHTSA) has taken the position that the device does not comply with Standard 571.121. Based on our research and practical experience, we strongly disagree with this position, and find it necessary to request your office for an exemption to this standard.

Our request is first based upon 49 U.S.C. 30133(b)(3)(B)(ii) which provides that an exemption will be granted upon finding that the exemption is consistent with the public interest and "the exemption would make easier the development of field evaluation of a new motor vehicle safety feature providing safety at least equal to the safety level of the standard." It is our experience that the MSRQ-5000 operates easier, is less expensive and has a better safety record than the electronic ABS products now in use under the standard. This device is less expensive to install, does not cause as much wear on brake linings and tires as the electronic system, and has fewer parts that are susceptible to damage or wear.

Our request is also based on 60 Fed. Reg. No. 229 at 63966, which provides that the "NHTSA's definition" of antilock brakes "permits any ABS, provided that it is a closed-loop system." The electronic antilock brake systems are not closed-loop. They vent air from the brake system during the braking cycle, extending the stopping distance. The MSQR 5000 is fully "closed-looped," senses and modulates air internally, and does not vent air during braking. As published in 60 Federal Register 13259, the NHTSA further defines, "An ABS is a closed-looped feedback control system that, above a preset speed, automatically modulates brake pressure in response to measured wheel speed performance to control the degree of wheel slip during braking and provide improved utilization of the friction available between the tires and the road."

During rulemaking, the NHTSA denied a petition by the Jenflo Company to amend the definition of ABS so as to permit open-looped systems. As cited by 60 Federal Register 63996, it states, "In previous notices, the agency discussed in extensive detail the reasons for requiring a "closed-loop" antilock system . . . NHTSA's definition permits any ABS, provided that it is a closed-loop antilock system that ensures feedback between what is actually happening at the tire-road interface and what the device is doing to respond to changes in wheel slip. As many brake and vehicle manufactures commented on the September 1993 NPRM, a device that satisfies these criteria is necessary to prevent wheel lockup under a variety of real world conditions, thereby significantly improving safety. In contrast, a definition that permitted open-looped systems would allow systems that would not necessarily prevent wheel lockup." All electronic antilock brake systems vent air in a grip-release or vent action during the braking cycles, thus making them "open looped" and therefore are not compliant with Standard 121. They respond only after the wheels lock, rather than prevent wheel lockup. It is also our opinion that the MSRQ 5000 antilock brake system is the only ABS to fully meet the performance standards of 49

CFR §571.121. Additional test data and evaluation data are contained in the enclosures.

It is also our opinion that the use of electronic antilock brake systems in complying with Standard 121 will compromise the safety of the vehicle. Electronic air brake systems incorporate "modulators" the cycle open and closed to vent air from the brake system to the atmosphere. These devices are subject to wear and contaminants within the brake system. The wear and contamination may cause the modulators to fail by remaining open during the braking cycle. This will subject our vehicles to an unsafe situation and they will be unable to stop as required due to the continual exhausting of air. This may cause accident of the loss of life. In extreme braking situations with heavily trafficked roadways this may force the vehicle into a rear end collision with another motor vehicle. Additional analysis establishing that the level of safety protection exceeds the performance safety standards of 49 CFR 571.121 is contained in the enclosures.

Our request for the exemption pursuant to §554.4 is also based on the determination that the antilock malfunction indicator referenced in §S5.2.3.3(a)(b)(c)(d) is "inconsequential."

a) Unlike electronic antilock brake systems, the MRQR-5000 antilock brake system has no electricity, and responds to pneumatic signals that are generated during the braking cycle. Therefore a pneumatic malfunction indication means is better for pneumatic malfunctions.

b) The MSQR-5000 functions at pressures as low as 5 pounds per square inch (psi) and fails to function when there is a complete loss of air pressure.

c) The pneumatic brake system stores approximately 120 pounds of air pressure to ensure that there is enough pressure to gaurantee multiple brake applications.

d) When the pressure falls to 60 psi, a malfunction light located on the dashboard of the cab in full view of the driver comes on. (Most vehicles also have a buzzer to sound an alarm at the same time.)

e) When the pressure drops to 30 psi, the emergency brake chamber releases to engage the emergency brake. This stops the vehicle and it must be repaired before it can be put back in service. This redundancy eliminates the need for additional wiring and gauges, thus keeping down the cost of the vehicle.

It is our opinion that the malfunction indicator is not relevant to the operational safety of the vehicle and is inconsequential to the performance and safety of the vehicles we manufacture. The malfunction indicator is a diagnostic tool that is designed to detect electrical malfunction, i.e., electrical failure or disruption of the flow of electricity that actually powers the ECU. The pneumatic MSQR-5000 does not have electricity and therefore does not require an electrical malfunction light. Therefore, the trailers we manufacture will differ in the elimination of the external malfunction warning

light.

Our request is also based on the fact that more that 300,000 electronic ABS systems had to be voluntarily recalled by the manufactures in September 2000. These systems experienced long brake activation delays when the brakes were applied. The activation delays are not detected by malfunction warning light that are mandated by Standard 121. Long brake application times are nto possible with the MSQR-5000 antilock brake system because it responds to the pneumatic signals generated in the air chambers. This enhances the safety of the vehicle.

Our request is also based on the information provided in an article in the Commercial Carrier Journal / March 2000. Mr. Dick Radlinski, president of Radlinski & Associates, East Liberty, Ohio, and former chief of Crash Advoidance Research Branch of the NHTSA states "As long as antilock brake system (ABS) fault light isn't lit, the system is functioning properly, right? Not necessarily. Despite extensive, onboard, ABS diagnostic capabilities, installation and repair problems can go undetected."

Our request is also based on DOT HS 808 568, April 1997, Interim Final Report, NHTSA's Heavy Duty Vehicle Brake Research Program Report Number 11 – Evaluation of Shopping Performance of Trailer Antilock Brake Systems. Page 7, section 32. Test Results – Tandem Axle Trailer Tests, the test states: "In determining which stop was shortest, only stops for which directional control was maintained were included." This test does not reveal all of the test data for the various electronic antilock brake systems tested by the NHTSA.

The same test . . . states "The chamber pressure shows a change in the average pressure level and the frequency of the cycling just after the transition of as the system responds to the change in surface friction." The pressure variations are graphically represented in Figure 6, Chamber Pressure (One Brake) on page 15. The Air Brake System Inc device, MSQR-5000, directly senses these pneumatic signals (pressure variations and frequency of cycling) and directly adjusts the brake actuating forces in the air chamber for better control during braking.

We are not aware of any customer complaints concerning the braking performance, and have had absolutely no reports of safety incidents concerning the MSQR-5000. This reflects a better safety record than that experienced by the electronic ABS now in use. We therefore also request an exemption pursuant to 49 U.S.C. 30113(b)(3)(B)(iv) which provides that an exemption should be granted when "compliance with the standard would prevent the manufacturer from selling a motor vehicle with an overall safety level at least equal to the overall safety level of non-exempt vehicles."

The use of the close-looped MSQR-5000 will also eliminate the additional expense of engineering a separate harness for powering the ECU of the electronic ABS. The additional connector between the towing tractor and the trailer is a drain on the electrical power capacity of the towing vehicle. The close-looped MSQR-5000 is pneumatic and does not require additional electricity to function. This reduced expense will make trucks and trailers more competitive by lowering the cost of manufacturing.

There are literally thousands of trucks, trailers and busses being operated on the highways today with the MSQR-5000 device installed and there have been no recorded safety complaints attributed to the device. As the use of this device would allow small businesses like ours to provide a superior product at a lower cost to the user, it would seem to be in the best interest of the public to grant the requested exemption.

Finally, this exemption request by IMT, is supported by the following:

a) Trailers produced by IMT differ in that they will be equipped with MSQR-5000 pneumatic ABS. One unit will be installed down wind from the relay valve to receive pneumatic delivery pressure and centered between and connected via conduits to the respective service brake air chambers on a single axle. One will be installed per axle. Each unit will be fixed to the frame to eliminate being subjected to the vibration of associated with bouncing axles.

b) Trailers produced by IMT will be standard equipped with the MSQR-5000 ABS safety equipment to provide balanced braking, even wear to the brake linings, maintenance of even and proper slack adjustments, shorter stopping distance, better braking deceleration and better tire wear. This will enhance the safety of the vehicle.

c) The use of "open-looped" ABS is strictly forbidden by the NHTSA. IMT is aware that electronic ABS system open to vent air during the braking cycle. Compliance with the Standard 121 via "open-looped systems" means would be a misrepresentation and fraud. IMT cannot legally sell a vehicle that impairs safety. This would prevent the sale of any vehicle that is equipped with an electronic or any ABS that opens and vents air during braking.

7) This exemption is being requested within 30 days of date of noncompliance pursuant to §556.4(6).

We have attached to this request applicable data on the patent, operational characteristics, testing and operation of the subject device. This information complies with the requirements of 49 U.S.C. 30113(c)(2) & (4). We certify that we

> are eligible for an exemption pursuant to the guidelines in 49 U.S.C. 310113(d) and 49 CFR 556.

AR at 1-5.

NHTSA later wrote to Intermodal on July 2, 2004 informing the company that the agency would not construe the application for exemption under 49 C.F.R. § 556, the provision permitting exemption for "inconsequential defect[s] or noncompliance." NHTSA explained:

> With respect to the first issue, under the National Highway Traffic and Motor Vehicle Safety Act . . . NHTSA may exempt a manufacturer from the duty to conduct a notification and remedy campaign (recall) to address safety related defect or noncompliance with an FMVSS if the agency decides that the defect or noncompliance is inconsequential to motor vehicle safety. *See* 49 U.S.C. §§ 30118(d), 30120(h). Under NHTSA's implementing regulations, 49 CFR Part 556, the agency may only grant such an exemption on the basis of an application by a manufacturer that has determined that noncompliance (or defect) exists in its products and has submitted a non compliance (or defect) information report pursuant 49 CFR Part 573, "Defect and Noncompliance Responsibility and Reports." See 49 CRF 556.4(a) and (b)(6). Since we have not received such a report from Intermodal, we cannot process your application under Part 556.

Def.s' Mot Judicial Notice, Ex. 3, Letter.[1]

As earlier noted, NHTSA, in a written decision, denied Intermodal's petition for an exemption on February 8, 2006. The agency cited two primary reasons for its decision. First, Intermodal "did not persuade the agency that the MSQR-5000 provides a safety level at least equal to that of the applicable Federal safety standard." AR at 215. Second, "Intermodal . . . failed to articulate how granting the exemption would be in the public interest or how the exemption would facilitate development or field evaluation of the MSQR-5000." *Ibid.* In other words, Intermodal "failed to meet the criteria specified in 49 CFR § 555.6(b)."AR at 217.

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[1]This document initially was not contained in the administrative record. However, at oral argument the parties stipulated to its admission. The document was also attached to Intermodal's complaint in previous litigation before this Court. *See* Case No. 05-10204

As a threshold, NHTSA considered whether the MSQR-5000 was actually an antilock brake system as contemplated under the regulations. In its view, that "determination is relevant to Intermodal's petition because paragraph S5.2.3.1 of FMVSS No. 121 . . . requires trailers to be equipped with ABS as defined in the Standard. If the MSQR-5000 is not an ABS, an exemption from the warning light requirements of the Standard, as requested by Intermodal, would still not permit the petitioner to use the MSQR-5000 in lieu of an ABS system either complying with Standard 121 or, if Intermodal had requested an exemption from the ABS requirement, providing an equivalent level of performance to vehicles meeting that requirement." AR at 218.

The agency disagreed that the MSQR-5000 constituted an ABS. It reasoned:

> Intermodal submitted a series of affidavits stating that the MSQR-5000 is an ABS system within the meaning of S4 of FMVSS No. 121. As explained below, we disagree and note that the supporting affidavits, as well as the arguments contained in the petition do not address the entire definition as set forth in S4 of FMVSS No. 121.
>
> The MSQR-5000 is essentially a diaphragm, backed by a piston and dampened by a rubber spring, which is acted on by the air pressure in the brake lines to the brake cylinders. According to the materials submitted by the petitioner, the MSQR-5000 operates on the theory that wheel lockup occurs because of pressure spikes and pressure differentials inside the braking system. The MSQR-5000 purportedly prevents wheel lockup by reacting to, and negating the impact of, these pressure waves and pressure differentials.
>
> Intermodal also provided the agency with several affidavits from private individuals purporting to state that a vehicle equipped with MSQR-5000 would conform to the requirements of FMVSS No. 121, and that based on mathematical calculations, vehicles equipped with MSQR-5000 would exhibit shorter stopping distances compared to conventional ABS systems that comply with the requirements of FMVSS No. 121. *Because these affidavits did not explain how the MSQR-5000 compensates for its apparent inability to detect and combat wheel slip, we find the affidavits irrelevant to vehicle performance on road conditions where ABS is needed*. Similarly, comments submitted in support of the petition stating that the use of the MSQR-5000 shortened stopping distance, had not generated any product liability claims, or was cheap and simple to maintain, are irrelevant to whether it functions as

an ABS. Stopping performance alone is not indicator that a vehicle has ABS. *While the petitioner provided some data, these data did not demonstrate performance which meets or exceeds the requirements of FMVSS No. 121, as required by §555.6(b)(2)(ii)*. In fact, one item provided by Intermodal, a Final Report on testing conducted by Southwest Research Institute (SWRI), indicates that the MSQR-5000 allowed wheel lockup resulting in a tractor trailer combination experiencing the equivalent of and FMVSS No. 121 test failure. Specifically, the vehicle did not, under full-treadle brake application, stop within a 12-foot wide land from 30 mph on wet surface negotiating a 500-foot radius curve. The conclusion of the final report reads as follows: "Based on the test results and discussions with the manufacturer, SwRI found that the MSQR system does not function in the same manner as an electronic anti-lock brake system (ABS). With full treadle application, it is possible to cause a wheel lockup that results in the vehicle not staying within the 12-foot lane."

The agency has considerable experience examining devices such as the MSQR-5000 and claims that this device and similar pressure dampening mechanisms function as an ABS. In 1992, NHTSA received a petition to require installation of devices like the MSQR-5000 on air braked vehicles. In response, the agency reviewed tests performed by the Southwest Research Institute, and the U.S. Army's Aberdeen Proving Ground, which showed that the MSQR-5000 and a similar device called the BX-100, did not prevent wheel lockup. NHTSA also tested a similar device for hydraulic brake systems, called the Brake Guard, which showed that the Brake Guard did not, as claimed, prevent wheel lockup. The agency denied the petition on July 2, 1992 explaining:

> Independent tests of the petitioner's device or products similar to his device indicate that it would not be in the interest of safety to adopt his requested amendment. For instance, tests at the Aberdeen Proving Ground indicated that a similar product, the BX-100 brake equalizer, was not approved on military vehicles . . .Similarly, tests at Southwest Research Institute indicated that vehicles equipped with the petitioner's device needed an average of approximately 0.5 seconds longer to stop because additional time was needed to fill the expansion chamber. These vehicles exhibited a slower stopping time which ranged from .04 to 1.0 seconds at 40 miles per hour which would add from 24 to 59 feet to the stopping distance. . . Tests also indicate that the petitioner's device does not smooth out the pressure spikes as claimed. In fact, it typically would only cause small changes in the pressure curves because of the added volume in the brake system pressure that must be filled with air. . . Historically, measurements at VRTC concerning pressure in air brake systems have not revealed peaks in brake pressure. In contrast, to the

> agency's knowledge, axle to axle pressure differentials in combination units are the only type of air pressure differential that contributes to safety problems such as jackknifing and unbalanced braking.

In regard to the theory of the MSQR-5000, NHTSA also conducted two-year road tests of the antilock brake systems on 200 trucks, and 50 trailers, accumulating 44 million miles worth of data, which revealed no evidence of the pressure pulses that are the linchpin of the device's operation. In the course of litigation in Air Brake Systems, Inc. v. Mineta, ABS Inc. *offered no data purporting to demonstrate that these pressure pulses exist and Intermodal's petition offers nothing further*.

As in the current Intermodal petition, in the case of Air Brake Systems, Inc. v. Mineta, ABS Inc. and its affiants asserted that the MSQR-5000 operates on the basis of differential pressure waves during braking by brake shoes contacting high and low spots and other irregularities in rotating brake drums. In response to these pressure differentials, the MSQR-5000 allegedly generates responsive waves that dampen pressure increases. *NHTSA research and testing have never revealed the existence of the pressure waves described by the petitioner and, after conferring with agency experts and outside consultants having as much as 45 years experience in the field of developing, designing, and testing brake systems, the agency believes that such waves do not exist*. However, even assuming the pressure differentials posited by the petitioner in fact exist, the MSQR-5000 depends on wheel rotation to generate the pressure pulses to which it allegedly reacts. As a locked wheel does not rotate, the MSQR-5000 cannot sense wheel lockup when it occurs and would cease completely to function under the very conditions of maximum braking instability when it most needs to act. Therefore, the agency concludes that the MSQR-5000 does not "automatically control . . . the degree of rotational wheel slip during braking" under all conditions, as FMVSS No. 121 requires.

In addition to the inability to control wheel slip during braking, even if the claimed pressure pulses do exist, they are not signals from which "the rate of angular rotation of the wheels," or therefore, wheel slip, can be determined as FMVSS No. 121 requires. Because the MSQR-5000 has no way of knowing how many irregularities there are in the shape of any given brake drum, it cannot measure the angular velocity of a wheel based soled on the propagation of the assume pressure pulses. For example, the device has no means of distinguishing between the pulses generated by a brake drum with six irregularities turning at 10 mile per hour, and a drum with a single irregularity turning at 60 miles per hour. Further, because it cannot determine the forward velocity of the vehicle, it would in any event lack critical information needed in order to determine wheel slip. The MSQR-5000 also lacks any means of processing information about the angular rotation of the wheels, and the forward velocity of the vehicle, in order to calculate the wheel slip. Finally,

> the theoretical claims of the petitioner fail to account for the fact that the brake drums on new vehicles are round and have minimal irregularities, if any, from which a pressure pulse would spring.
>
> The petitioner argues that the MSQR-5000 controls wheel slip and prevents lockup by reducing pressure spikes that its expert assumes to be on the order of 2 psi. However, during a sudden stop, a vehicle operator may apply as much as 60-100 psi of brake pressure, thus requiring that the pressure be reduced by anywhere from 20 to 80 psi to prevent wheels from locking, or to free wheels that have been already locked. Under these conditions, modulating pressure pulses in the range of 2 psi will not prevent sustained wheel lookup. The MSQR-5000 does not vent air from the brake chambers in order to reduce brake pressure, a process that is basic to controlling slip and preventing lockup in air-braked vehicles. For this reason, NHTSA concludes that the MSQR-5000 does not "control wheel slip during braking" within the meaning of FMVSS No. 121.
>
> The petitioner's analysis of fluid dynamics within an air brake system assumes a plane, one dimensional system and fails to account for the reflection and diffraction of the assumed pressure waves within the multi-dimensional geometry of a real brake line system. It also fails to account for the effects of incoming "data" waves and outgoing "control" waves on one another as they travel in opposite directions within the same brake lines. Instead it assumes, that the pressure waves generated by the rotation of the brake drums travel in "still air" within the brake line.

AR at 218-20 (emphasis added).

NHTSA then reviewed the merits of Intermodal's petition for an exemption from the warning light requirements of safety standard S5.2.3.2 and S5.2.3.3. It noted that the MSQR-5000 had no electrical circuit that could signal an ABS malfunction and therefore Intermodal's "trailers are not equipped with an external antilock malfunction indicator lamp." AR at 220. In the agency's view, this feature is critical "to alert operators that the ABS is not functioning and wheel lockup could occur." *Ibid.*. Although Intermodal and a commenter contended that a warning system was unnecessary because the MSQR-5000 did not utilize electricity and a low pressure indicator was adequate, NHTSA disagreed, finding that Intermodal "fail[ed] to explain the potential consequences of mechanical failures of the MSQR-5000 system." *Ibid.*

The agency conceded that a low air pressure indicator could signal to the driver a significant loss of pressure. However, it opined that other malfunctions in the system could be manifest that have little to do with air pressure. In other words, "the MSQR-5000 could fail without significant loss in system air pressure." *Ibid.* By contrast,"ABS systems meeting the requirements of FMVSS No. 121 would warn the vehicle operator in the absence of any pressure loss." *Ibid.* In concluding that the MSQR-5000's warning system was insufficient, the agency reasoned:

> NHTSA adopted the warning light requirement after concluding "that it is essential that the driver be notified about and ABS malfunction, so that the problem can be corrected. This conclusion applies equally to electronic and mechanical ABSs, and NHTSA explained that "mechanical ABSs will have to comply with the malfunction indicator requirements." Any mechanical device, including the MSQR-5000, can wear out, brake, or otherwise malfunction. Indeed, we have previously concluded, and continue to believe, that the MSQR-5000 is susceptible to any number of possible malfunctions that would not be detected by the vehicle's low-pressure warning system.

Ibid.

Finally, NHTSA determined that Intermodal did not "articulate how a temporary exemption would facilitate the development or field evaluation of vehicles equipped with MSQR-5000, as required by §555.6(b)(3)." *Ibid.* Lacking, in the agency's view, was "a research plan or any other information that would explain how an exemption would be helpful in the further development of MSQR-5000 or trailers equipped with that device." *Ibid.* Notably, Intermodal did not even suggest that "it intends to collect any data from the vehicles equipped with the MSQR-5000." As a result, NHTSA further concluded that "Intermodal did not address how granting an exemption would serve the public interest." *Ibid.* The agency then reiterated its key findings:

> In sum, the petitioner failed to meet the criteria of §555.6(b)(3) and §555.6(b)(2)(ii) because the petitioner *did not persuade the agency that the safety device in question provides a safety level at least equal to that of the applicable Federal standard, and*

> *because it failed to articulate how the exemption would make easier the development or field evaluation of the safety device for which the exemption is being sought*. In addition, because the agency believes that MSQR-5000 cannot sense the rate of angular wheel rotation on a vehicle with new brake drums that do not have wear-related irregularities; is incapable of quantifying the actual rate of angular wheel slip; cannot control rotational wheel slip during full lockup; and cannot release excess pressure and therefore is incapable of preventing incipient lockup, we conclude that the grant of an exemption is not in the public interest.

Ibid.(emphasis added).

III.

Summary judgment under Federal Rule of Civil Procedure 56 is a particularly useful method of reviewing federal agency decisions because "the sole question at issue [is] a question of law," and the underlying material facts are contained in the administrative record. *Sierra Club v. U.S. Fish and Wildlife Service,* 189 F. Supp. 2d 684, 690 (W.D. Mich. 2002); *United States v. Donovan*, 348 F.3d 509, 511 (6th Cir. 2003); *see also Wachovia Bank v. Watters*, 431 F.3d 556, 559 (6th Cir. 2005); *Progressive Corp. & Subsidiaries v. United States*, 970 F.2d 188, 190-91 (6th Cir. 1992). The Court's role is to determine whether judgment as a matter of law is appropriate for either party, in light of the standard of review prescribed for an agency's denial of a petition for an exemption under the Administrative Procedures Act.

A decision on an application for an exemption from a Federal Motor Vehicle Safety Standard constitutes informal agency action because neither the Safety Act or its implementing regulations require hearings to be held or factual findings to be made. *See* 49 C.F.R. § 557(b) (providing that applications for exemptions do not receive hearings); *Kroger v. Regional Airport Authority*, 286 F.3d 382, 386 (6th Cir. 2002). Consequently, under the APA, the Court may set aside NHTSA's decision only if it "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with

law." 5 U.S.C. § 706(2)(A)*; Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 414 (1971).

The arbitrary and capricious standard is considered to be the least demanding review of agency action. *Kroger*, 286 F.3d at 389. In other words, the Court is not permitted to substitute its judgement for that of the agency. *Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42-43 (1983). Because of agency's high degree of expertise in the area it regulates, the Court should largely defer to the agency with respect to technical and scientific determinations. *Kentucky Resources Council, Inc. v. EPA*, 467 F.3d 986, 991(6th Cir. 2006). In fact, this Court is to "uphold a decision of less than ideal clarity if the agency's path may reasonably be discerned." *Motor Vehicles Mfrs. Ass'n*, 463 U.S. at 43.

Although narrow, this standard of review is not without meaning. Indeed, the Court is to make a careful and searching review in its assessment of the agency's action. *Overton Park*, 401 U.S at 415. When the agency has "offered an explanation for its decision that runs counter to the evidence before [it]," the Court may properly set aside the agency's decision as arbitrary and capricious. *Wilson Air Center, LLC v. FAA*, 372 F.3d 807, 813 (6th Cir. 2004). Nor must the Court accept the wholesale the expert opinions of agency experts. *Northern Spotted Owl v . Hodel*, 716 F. Supp. 479, 483 (W.D. Wash. 1988) (reasoning that the court may reject "conclusory assertions of agency 'expertise' where the agency spurns unrebutted expert opinions without itself offering a credible alternative explanation"). Finally, even if the agency's decision is supported by substantial evidence, the Court may set aside a decision "where other evidence in the record detracts from that relied upon by the agency." *American Tunaboat Ass'n v. Baldrige*, 738 F.2d 1013, 1016 (9th Cir. 1984).

A.

Intermodal strenuously argues that NHTSA acted arbitrarily and capriciously in denying its petition because it relied on design factors not stated in Federal Motor Vehicle Safety Standard 121. This contention is reminiscent of Washington's earlier arguments to the Tenth Circuit that the standard exceeds statutory authority because it forces manufactures to use certain design features, when the agency is only permitted to regulate performance standards. *See Wood v. General Motors Corp.*, 865 F.2d 395, 416-17 (1st Cir. 1988) (reasoning that NHTSA is generally charged with developing performance standards, not design specifications). The twist in this case is that Intermodal now asserts NHTSA has interpreted its regulations to impermissibly add design requirements. The Court disagrees.

> Under the regulations, an antilock brake system is defined as:
>
> Antilock brake system or ABS means a portion of a service brake system that automatically controls the degree of rotational wheel slip during braking by:
>
> (1) Sensing the rate of angular rotation of the wheels;
>
> (2) Transmitting signals regarding the rate of wheel angular rotation to one or more controlling devices which interpret those signals and generate responsive controlling output signals; and
>
> (3) Transmitting those controlling signals to one or more modulators which adjust brake actuating forces in response to those signals.

49 C.F.R. §571.121(S4).

The gravamen of Intermodal's complaint is that NHTSA has interpreted this regulation so that only electronic antilock brakes could qualify. For example, Intermodal notes that an ABS "must sense the rate of angular rotation of the wheel." In Intermodal's view, the language does not require an ABS "to compute the velocity of the wheels, compute the speed of the vehicle, or compute the

acceleration or deceleration rates of the wheels." Intermodal Mot. Summ. J. at 19. However, according to Intermodal, in its decision, NHTSA apparently for the first time read the provision to require the device "to obtain information about the rate of wheel rotation, relative to the forward motion of the wheel; to obtain information regarding the angular velocity of a wheel; and to determine velocity of the vehicle . . . .[and] has for the first time interpreted such language to possess a wheel speed sensor to monitor the rotational speed of the wheel." *Ibid.* (internal quotations and citations omitted).

Further, Intermodal continues, NHTSA, in its decision requires an antilock brake device to "process information about the angular rotation of the wheels, and the forward velocity of the vehicle, in order to calculate the wheel slip." *Id.* at 20 (citations omitted) These functions, Intermodal insists, mandate computerization and directly contradicts the agency's statement that Standard 121 "does require electronics for the sensing of the wheel rotation, or transmission of wheel rotation or controlling signals." 60 Fed. Reg. at 13227.

As noted, the second definitional element is that the antilock device is that it "transmits signals regarding the rate of wheel angular rotation to one or more controlling devices which interpret those signals and generate responsive controlling output signals." 49 C.F.R. § 571.121(S4)(2). Intermodal complains that NHTSA now "use[s] the rate of wheel rotation and not a substitute or surrogate factor to control wheel slip and prevent lockup." *Id.* at 21. In its view, "[s]uch a definition is nonsensical, and appears to be intended to preclude any ABS device other than a computerized device." *Ibid.*

Finally, the third definitional element requires the device to "[t]ransmit[] those controlling signals to one or more modulators which adjust brake actuating forces in response to those signals."

49 C.F.R § 571.121(S4)(3). However, according to Intermodal, in its decision, NHTSA now requires an antilock device to "modulate brake pressure in response to the rate of angular rotation of wheels relative to the vehicles forward motion," which means that the "[antilock brake] device must vent from the brake chambers in order to reduce brake pressure, a process that is basic to controlling slip and preventing lockup in air-braked vehicles." *Ibid.* Intermodal concludes that NHTSA requires a pressure release valve, which is a design, not a performance specification.

Intermodal's challenges to the agency's opinion are unpersuasive. Intermodal relies in part on the notion that NHTSA has for the first time interpreted the regulation in a certain way. However, Intermodal has cited to no provision of law that would compel setting aside the decision here simply because the agency, in denying an application for an exemption, explained its views on the meaning of the applicable requirements. Intermodal's burden is well established: it must show that NHTSA conclusion was arbitrary and capricious.

Moreover, Intermodal's contention that only electronic devices would satisfy NHTSA's novel construction of Safety Standard 121 appears to rest largely on Intermodal's *own interpretation* of the agency's decision. For example, the term "electronic" is not contained within the agency's interpretations, and NHTSA's focus plainly is on "performance" as opposed to "design." Indeed, NHTSA has not read Safety Standard 121 to require any type of specific device or design. It is only Intermodal's contention that only a computerized antilock brake system would satisfy the agency.

As a general rule, the Court must afford great deference to an agency when the agency interprets its own regulations. *See Auer v. Robbins*, 519 U.S. 452 457-58 (1998) (reasoning that agencies are entitled to deference in the interpretation of their own regulations). In this case, the Court sees no justification to ignore this well-established mandate. In fact, NHTSA offers a

persuasive rebuttal to Intermodal's assertions noting that, at times, the agency was not interpreting a given term, the agency was simply employing a synonym, and Intermodal misread the agency's decision. NHTSA reasons:

> [P]laintiff mistakenly asserts that NHTSA has not interpreted the ABS definitional element on "sensing the rate of angular rotation of the wheels" to require an ABS device to obtain "information about the rate of wheel rotation, relative to the forward motion of the wheel." This misreads the decision, which in context did not interpret the definitional element of sensing the rate of angular rotation of the wheels. Instead, the decision explained how the information about the rate of wheel rotation is used by an ABS. AR 217. This explanation refers to the term "wheel slip," which in the preamble to the 1995 rule adopting the ABS requirement, NHTSA referred to as "the proportional amount of wheel/tire skidding relative to vehicle forward motion." AR 272 n 27; see also AR 145 AR 172, AR 218, AR 272, AR 307, AR 334, AR 336. In any event, as is evident from the preceding quotation, the references to wheel rotation and vehicle forward motion were not first articulated in the decision.
>
> Similarly, plaintiff quibbles about the phrase "angular velocity of a wheel" on the grounds that NHTSA interpreted it in a way for the first time. But plaintiff has not demonstrated that what NHTSA said was plainly erroneous or inconsistent with the regulation, as it can not, because phrases such as "rate of wheel rotation," and in short hand "angular velocity of a wheel," and"rotational speed of the wheel" are different ways of saying the ABS definitional element of rate of angular rotation of the wheel.
>
> Plaintiff argues that NHTSA interpreted the regulatory language to require computerization. . . . Plaintiff refers to a statement in the decision that the MSQR lacks any means of processing information about the angular rotation of the wheels and the forward velocity of the vehicle, in order to calculate the wheel slip. AR 220 . . . .In order for an ABS to control wheel slip as required by FMVSS No. 121, the ABS must be able to detect wheel slip. . . . [W]heel slip is derived from the rate of angular rotation of the wheel and the forward motion of the vehicle. An ABS uses both of these elements to determine and, thus control, wheel slip.
>
> [Another definitional element] is "transmitting signals regarding the rate of wheel angular rotation to one or more controlling devices which interpret those signals and generate responsive controlling output signals." NHTSA stated the ABS must use the rate of wheel rotation, and not a substitute, to control wheel slip and prevent lock up. AR 218. Plaintiff asserts that this is nonsensical and, once again, Plaintiff complains that this requires computerization, a word that does not appear in NHTSA's interpretation. Both the ABS definition and NHTSA's decision refer to the rate of

wheel angular rotation. In the first numbered element, the definition requires sensing the rate of angular rotation of the wheels. Next, the transmission of signals regarding that rate to controlling device(s) which generate controlling output signals is required. Then, the transmission of those controlling signals to modulator(s) that adjust the brake forces in response to those controlling signals is required. Collectively, these actions must control the degree of rotational wheel slip. In short, an operating ABS starts with the rate of angular rotation of the wheels, goes through other steps, and ultimately controls wheel slip.

NHTSA stated that the ABS must use the rate of wheel rotation, and not a substitute, to control wheel slip. This is not plainly erroneous or arbitrary and capricious; it is true that its coverage includes matters such as wheel slip that are not in the second numbered element. And, while Plaintiff offers its views that the definition "requires an ABS device to transmit signals 'with respect to or concerning' the rate of wheel angular rotation, Plaintiff has not argued or shown that its application demonstrated that the MSQR meets this test or that NHTSA's decision at AR 219-20 was based on factors that are inconsistent with the ABS definition.

The [final] element of the ABS definition is "transmitting those controlling signals to one or more modulators which adjust brake actuating forces in response to those signals." (emphasis added). NHTSA interpreted this to mean in part that the ABS must modulate brake pressure in response to the rate of angular rotation of the wheels relative to the vehicle's forward motion. AR 218. Plaintiff argues that "NHTSA has added a new requirement to 'modulate brake pressure'" and a new phrase "relative to the vehicle's forward motion." "Adjust" is a synonym for "modulate." In addition, the adjustment of brake force involves adjusting (increasing or decreasing) braking pressure. AR 147-49. Vehicle forward motion is part of wheel slip. AR 272. Thus, NHTSA's interpretation, which requires modulation of brake pressure in response to wheel slip, was not plainly erroneous.
. . .

Plaintiff quotes NHTSA's decision as suggesting that the "ABS device must 'vent air from the brake chambers in order to reduce the brake pressure, a process that is basic to controlling slip and preventing lockup in air-braked vehicles.'" This suggestion is grounded on plaintiff's rewriting of the decision. The decision analyzing the MSQR, states that "MSQR does not vent air from the air chambers in order to reduce brake pressure, a process that is basic to controlling slip and preventing lockup in airbraked vehicles." . . . . The MSQR is not capable of modulating air pressure to release a locked wheel because it is not capable of venting air pressure on the brake to do so. AR 138-39, AR 188. . . An ABS must be able to modulate, that is, reduce, hold, and reapply, air pressure. AR 218; see also AR 138-40, AR 158-59, AR 175, AR 177, AR 189-94.

Def.s' Mot. Summ. J. at 18-21.

Ultimately, the kind of hyper-technical judicial scrutiny of agency interpretation that Intermodal urges is precisely what the Tenth Circuit warned against. To be sure, interpretation of the standard, although performance driven, may suggest a certain type of design. However, as the Tenth Circuit noted:

> [T]he performance-design distinction is much easier to state in the abstract than to apply definitively–so as to justify judicial interference with an agency's regulatory function–in concrete situations. This is particularly true when, due to contingent relationships between performance requirements and design options, specification of the former effectively entails, or severely constrains, the choice of the latter. Such a relationship has been recognized between braking performance criteria and ABS. We would, accordingly, be hesitant to invalidate this carefully developed safety standard solely on the basis of its indefinite place on the conceptual spectrum between performance and design.

Washington, 84 F.3d at 1224.

Because NHTSA may permissibly interpret regulations for the first time and Intermodal's belief that the agency's interpretations would permit only a computerized device is based largely on its *own interpretation* of NHTSA's denial, NHTSA's interpretations are entitled to deference. The Court finds no basis to set aside the decision as arbitrary and capricious. However, despite the Court's conclusion, Intermodal, as has been emphasized before, is not with out remedy. As both the Tenth and Sixth Circuits have noted, Intermodal may seek to engage the rulemaking process to change the applicable standards. *Air Brake Systems*, 357 F.3d 645-46 ("reasoning that "the company remains free to petition NHTSA to alter Standard 121 under the agency's rulemaking powers. 49 C.F.R. § 552.3(a) ('Any interested party may file with the Administrator a petition requesting him . . . [t]o commence a proceeding respecting the issuance, amendment or revocation of a motor vehicle safety standard.')"); *Washington*, 84 F.3d at 1225 (noting that Washington could "petition

for a new safety standard incorporating the new device").

B.

Perhaps the most critical finding in NHTSA's decision that Intermodal contests is the agency's conclusion that the MSQR-5000 is not an antilock brake system as contemplated by the regulations. Of course, in order to qualify for an exemption from a safety standard governing antilock brakes, the device must first be an antilock brake system. Thus, unless this threshold is met, the remaining portions of the petition become moot. Intermodal primary contends that NHTSA's determination was arbitrary and capricious because NHTSA ignored the opinions of Intermodal's experts and accorded controlling weight to the analytically less rigorous opinions of its own unreliable experts. The Court cannot agree. NHTSA thoroughly reviewed the mechanics of the MSQR-5000. It is not the Court's role to weigh the competing contentions and qualifications of experts in this highly technical area.

> As previously noted, NHTSA has defined an antilock brake system as follows:
>
> Antilock brake system or ABS means a portion of a service brake system that automatically controls the degree of rotational wheel slip during braking by:
>
> (1) Sensing the rate of angular rotation of the wheels;
>
> (2) Transmitting signals regarding the rate of wheel angular rotation to one or more controlling devices which interpret those signals and generate responsive controlling output signals; and
>
> (3) Transmitting those controlling signals to one or more modulators which adjust brake actuating forces in response to those signals.

49 C.F.R. §571.121(S4).

Intermodal cites to the Supreme Court's seminal decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1973) as persuasive – albeit not binding – authority against

which NHTSA should have measured the reliability of expert testimony. The framework set forth in that decision, Intermodal maintains, would prevent NHTSA from passing off "junk science" as dispositive of its technical conclusions.

Intermodal complains that none of NHTSA's experts that opined that the MSQR-5000 did not comply with Safety Standard 121 have actually tested, examined, or seen the device. The affidavits of Duane A. Perrin, Afred G. Beier, Robert D. Ervin, Mancil W. Milligan, and Leonard C. Buckman simply attack the opinions of those experts that have worked with the MSQR-5000. In fact, Intermodal notes, Perin and Beier never even examined the promotional materials that were submitted with the petition. The other three based their review solely on the patent information. In Intermodal's view, it is inconceivable that the agency relied on experts that lack personal knowledge, and concludes that "fundamental fairness requires an administrative agency to rely upon only those expert opinions which rest on reliable foundation and scientific fact." Intermodal Mot. Summ. J. at 16.

Intermodal's arguments are again without merit. As it concedes, neither the Federal Rules of Evidence nor *Daubert* find direct application in this instance. The test is not of personal knowledge, which has never been required of experts even under evidentiary rules, nor of whether the agency actually tested and evaluated the device; the plaintiff bears the burden of showing that the agency's determination is arbitrary and capricious. Intermodal has not met that burden.

Even upon cursory reading, it is apparent that the experts NHTSA utilized are well-qualified. Perrin, an NHTSA engineer at the time he submitted his affidavit, assisted in the development and publication of braking standards. AR at 132. His area of focus was heavy vehicle research and air brake systems. *Ibid.* Beier is the former chief engineer of brakes and wheel equipment for a

company that manufacture vehicles with air brakes. AR at 153. He later became a consultant in the area of new products and brake problems. AR at 153. Ervin, presently a research engineer and University of Michigan professor, has authored approximately ninety journal articles and conference papers. AR at 169. In addition, he has taught a course on the mechanics of heavy duty trucks and truck combinations. *Ibid.* Milligan is the University of Tennessee's department head of mechanical and aerospace engineering. AR at 169. He has researched fluid mechanics for thirty-five years. *Ibid.* Buckman is an engineer with forty-one years of experience. AR at 179. He is the author of *Air Brakes, ABS, and Beyond*, published by the Society of Automotive Engineers. Finally, NHTSA relied on the affidavit of Jeffrey Woods. His affidavit was filed as a supplement to the administrative records and reveals that he is presently a NHTSA safety standards engineer and formerly an agency research engineer in the heavy vehicle division. AR at 462. In terms of qualifications, the Court cannot say that the choice of these experts was arbitrary and capricious.

Substantively, NHTSA's primary finding centered on the apparent inability, in its view, of the MSQR-5000's "to detect and combat wheel slip." AR at 218. Because of this inability, the agency reasoned, the device did not meet that requirement that it "automatically control[] the degree of rotational wheel slip during braking." 49 C.F.R. 571.121(S4). NHTSA explained that the MSQR-5000 is "essentially a diaphragm backed by a piston and dampened by a rubber spring, which is acted upon by the brake cylinders." AR at 218. The device "operates on a theory that wheel lockup occurs because of pressure spikes and pressure differentials inside the braking system . . . . [The MSQR-5000] purportedly prevents wheel lockup by reacting to, and negating the impact of, these pressure waves and pressure differentials." AR at 218-19.

The difficulty, however, is that NHTSA found that Intermodal did not provide support for

the existence of the pressure waves. The agency's conclusion is supported in the decision and record. NHTSA noted that it had conducted two-year road tests with devices similar to the MSQR-5000 on 200 trucks and fifty trailers. It accumulated over forty-four million miles worth of data, "which revealed no evidence of the pressure pulses that are the linchpin of the device's operation." AR at 219. Indeed, NHTSA affirmed that its "research and testing have never revealed the existence of the pressure waves described by [Intermodal]." *Ibid.* NHTSA concluded that "after conferring with agency experts and outside consultants having as much as 45 years experience in the field of developing, designing, and testing brake systems, the agency believes that such waves do not exist." *Ibid.*

The agency also based its conclusion that the device did not prevent wheel lockup on outside tests of two similar devices, the BX-100 and Brake Guard. Tests were performed by the Southwest Research Institute and at the Aberdeen Proving Ground by the United States Army and led the agency to the following conclusion:

> Independent tests of the petitioner's device or products similar to his device indicate that it would not be in the interest of safety to adopt his requested amendment. For instance, tests at the Aberdeen Proving Ground indicated that a similar product, the BX-100 brake equalizer, was not approved on military vehicles . . .Similarly, tests at Southwest Research Institute indicated that vehicles equipped with the petitioner's device needed an average of approximately 0.5 seconds longer to stop because additional time was needed to fill the expansion chamber. These vehicles exhibited a slower stopping time which ranged from .04 to 1.0 seconds at 40 miles per hour which would add from 24 to 59 feet to the stopping distance. . . Tests also indicate that the petitioner's device does not smooth out the pressure spikes as claimed. In fact, it typically would only cause small changes in the pressure curves because of the added volume in the brake system pressure that must be filled with air. . . Historically, measurements at VRTC concerning pressure in air brake systems have not revealed peaks in brake pressure. In contrast, to the agency's knowledge, axle to axle pressure differentials in combination units are the only type of air pressure differential that contributes to safety problems such as jackknifing and unbalanced braking.

Ibid.

Intermodal claims that NHTSA's own research supports the existence of the pressure waves. However, Intermodal does not cite to any record evidence for this proposition. Instead, it relies on an interim report entitled "NHTSA's Heavy Duty Vehicle Brake Research Program Report Number 11 – Evaluation of Stopping Performance" that it attached to its motion for summary judgment. *See* Intermodal Mot. Summ. J. Ex 9, Report. Generally, the Court's review is confined to the evidence contained in the administrative record. *See Kroger*, 286 F.3d at 389. Intermodal made no motion to supplement the record, and it is questionable whether the Court should review it. In any event, NHTSA has offered a reasoned explanation that the report did not focus on the type of waves Intermodal claims it does.

> For several reasons, the pressure variations cannot be the pressure pulses the MSQR-5000 allegedly relies upon to operate as an ABS. Plaintiff has completely misinterpreted the data displayed in the charts attached to plaintiff's brief but not submitted in the application. The chart illustrates how an ABS system responds to a change in road surface conditions. The pressure variations referred to by plaintiff represent the efforts of the ABS system to avoid wheel lockup by applying and releasing brake pressure, not a pressure pulse in response to a defects in the brake drum or brake shoe as plaintiff contends.

Def.s' Mot. Summ. J. at 29-30.

The affidavits submitted by Intermodal either assume the existence of the pressure waves or insist the NHTSA testing equipment is too slow to measure the differentials. *See* AR 12-55. At least one affidavit offers mathematical formulae demonstrating that such waves are theoretically possible, but there does not appear to be any documentation of their actual existence with respect to the MSQR-5000. At best, then, there is a difference of opinions between the parties' experts and Intermodal's belief that its experts deserve more weight.

However, it is not the function of the Court to afford more weight to a parties' expert in dealing with technical matters that are within the regulatory province of an agency. In fact, the Supreme Court has emphasized that inherent in the deference afforded by the arbitrary and capricious standard of review, an agency "must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive." *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378 (1989). Intermodal has not demonstrated that the opinions of NHTSA's experts were unreasonable, and the Court believes that the agency's determination that the MSQR-5000 was not an antilock brake system as contemplated under the regulations was neither arbitrary nor capricious.

C.

Intermodal makes a final challenge to NHTSA's decision. It claims that the agency improperly reviewed its petition for an exemption only under 49 U.S.C. § 30113(b)(3)(B)(ii) and not under 49 C.F.R. § 556.4 as Intermodal requested. Intermodal insists that it never received actual notice that NHTSA would focus on section 30113, and the agency's failure to provide that notice denied it due process of law. The Court disagrees. Not only did NHTSA provide actual notice to Intermodal, the agency's conclusion that 49 C.F.R. § 556.4 was inapplicable was not arbitrary or capricious.

The significance of the agency's decision to construe the petition under section 30113 is not readily apparent. In its denial, NHTSA found that Intermodal would not be entitled to an exemption because, among other things, "Intermodal . . . failed to articulate how granting the exemption . . . would facilitate development or field evaluation of the MSQR-5000," AR at 220, as required by 49 C.F.R. § 555.6(b) (regulation promulgated pursuant to section 30113). Specifically lacking, in the

agency's view, was "a research plan or any other information that would explain how an exemption would be helpful in the further development of MSQR-5000 or trailers equipped with that device." *Ibid.* Notably, Intermodal did not even suggest that "it intends to collect any data from the vehicles equipped with the MSQR-5000." *Ibid.*

Intermodal complains that 49 C.F.R. § 556.4, the provision not considered by the agency, does not require such a showing. Section 556.4 governs exemptions for "inconsequential defect or non compliance," and provides:

> (a) A manufacturer who has determined the existence, in a motor vehicle or item of replacement equipment that he produces, of a defect related to motor vehicle safety or a noncompliance with an applicable Federal motor vehicle safety standard, or who has received notice of an initial determination by the NHTSA of the existence of a defect related to motor vehicle safety or a noncompliance, may petition for exemption from the Act's notification and remedy requirements on the grounds that the defect or noncompliance is inconsequential as it relates to motor vehicle safety.
>
> (b) Each petition submitted under this part shall–
>
> (1) Be written in the English language;
>
> (2) Be submitted in three copies to: Administrator, National Highway Traffic Safety Administration, Washington, D.C. 20590;
>
> (3) State the full name and address of the applicant, the nature of its organization (e.g., individual, partnership, or corporation) and the name of the State or country under the laws of which it is organized.
>
> (4) Describe the motor vehicle or item of replacement equipment, including the number involved and the period of production, and the defect or noncompliance concerning which an exemption is sought; and
>
> (5) Set forth all data, views, and arguments of the petitioner supporting his petition.
>
> (6) Be accompanied by three copies of the report the manufacturer has submitted, or is submitting, to NHTSA in accordance with part 573 of this chapter, relating to its determination of the existence of safety related defect or noncompliance with an applicable safety standard that is the subject of the petition.
>
> (c) In the case of defects related to motor vehicle safety or noncompliances determined to exist by a manufacturer, petitions under this part must be submitted not later than 30 days after such determination. In the case of defects related to motor vehicle safety or noncompliances initially determined to exist by the NHTSA,

> petitions must be submitted not later than 30 days after notification of the determination has been received by the manufacturer. Such a petition will not constitute a concession by the manufacturer of, nor will it be considered relevant to, the existence of a defect related to motor vehicle safety or a nonconformity.

49 C.F.R. § 556.4.

Intermodal explained in its petition that its noncompliance with the warning light requirements set forth Safety Standard 121 was "inconsequential" and sought an exemption on that basis as well. Intermodal contends that, although 49 C.F.R. § 555.6 requires an articulation of how an exemption would facilitate development or field evaluation of vehicles equipped with its device, no such requirement is contained in section 556.4. Thus, in its view, had NHTSA properly construed its petition under section 556.4, Intermodal would have been entitled to an exemption because any defect in its device was inconsequential.

Intermodal's due process argument is also without merit. In fact, supplemental materials included in the administrative record by stipulation of the parties at oral argument reveal that NHTSA provided Intermodal with actual notice that it would not apply section 556.4. In a letter dated July 2, 2004, the agency wrote:

> With respect to the first issue, under the National Highway Traffic and Motor Vehicle Safety Act . . . NHTSA may exempt a manufacturer from the duty to conduct a notification an remedy campaign (recall) to address safety related defect or noncompliance with an FMVSS if the agency decides that the defect or noncompliance is inconsequential to motor vehicle safety. *See* 49 U.S.C. §§ 30118(d), 30120(h). Under NHTSA's implementing regulations, 49 CFR Part 556, the agency may only grant such an exemption on the basis of an application by a manufacturer that has determined that noncompliance (or defect) exists in its products and has submitted a non compliance (or defect) information report pursuant 49 CFR Part 573, "Defect and Noncompliance Responsibility and Reports." See 49 CRF 556.4(a) and (b)(6). Since we have not received such a report from Intermodal, we cannot process your application under Part 556.

Def.s' Mot Judicial Notice, Ex. 3, Letter.

Whether NHTSA was arbitrary and capricious in so deciding, however, requires explication of the statutory and regulatory framework governing exemptions. The National Traffic and Motor Safety Act, 49 U.S.C. § 30110 *et seq.*, delegates to NHTSA authority to promulgate and enforce Federal Motor Vehicle Safety Standards. Those standards are meant to set minimal safety criteria for new motor vehicles. *Simms v. NHTSA*, 45 F.3d 999, 1001 (6th Cir. 1995). The Safety Act proscribes the manufacture and sale of vehicles that are not in compliance with safety standards promulgated by NHTSA. 49 U.S.C. § 30112(a). The Act also requires manufacturers to recall noncompliant vehicles. 49 U.S.C. § 30118(c).

Statutorily, there are two exceptions to the prohibition on sale of noncompliant vehicles and the mandate to recall vehicles not in compliance with safety standards. First, section 30113, Title 49 of the United States Code provides for temporary exemptions from compliance, in whole or in part, with a safety standard. Section 30113 provides, in relevant part:

> (b) Authority to exempt and procedures. – (1) The Secretary of Transportation may exempt, on a temporary basis, motor vehicles from a motor vehicle safety standard prescribed under this chapter or passenger motor vehicles from a bumper standard prescribed under chapter 325 of this title, on terms the Secretary considers appropriate. An exemption may be renewed. A renewal may be granted only on reapplication and must conform to the requirements of this subsection. (2) The Secretary may begin a proceeding under this subsection when a manufacturer applies for an exemption or a renewal of an exemption. The Secretary shall publish notice of the application and provide an opportunity to comment. An application for an exemption or for a renewal of an exemption shall be filed at a time and in the way, and contain information, this section and the Secretary require. (3) The Secretary may act under this subsection on finding that –
>
> (A) an exemption is consistent with the public interest and this chapter or chapter 325 of this title (as applicable); and
>
> (B)(i) compliance with the standard would cause substantial economic hardship to a manufacturer that has tried to comply with the standard in good faith; (ii) the exemption would make easier the development or field evaluation of a new

motor vehicle safety feature providing a safety level at least equal to the safety level of the standard; (iii) the exemption would make the development or field evaluation of a low-emission motor vehicle easier and would not unreasonably lower the safety level of that vehicle; or (iv) compliance with the standard would prevent the manufacturer from selling a motor vehicle with an overall safety level at least equal to the overall safety level of nonexempt vehicles.

(c) Contents of applications.--A manufacturer applying for an exemption under subsection (b) of this section shall include the following information in the application:

(1) if the application is made under subsection (b)(3)(B)(i) of this section, a complete financial statement describing the economic hardship and a complete description of the manufacturer's good faith effort to comply with each motor vehicle safety standard prescribed under this chapter, or a bumper standard prescribed under chapter 325 of this title, from which the manufacturer is requesting an exemption.

(2) if the application is made under subsection (b)(3)(B)(ii) of this section, a record of the research, development, and testing establishing the innovative nature of the safety feature and a detailed analysis establishing that the safety level of the feature at least equals the safety level of the standard.

(3) if the application is made under subsection (b)(3)(B)(iii) of this section, a record of the research, development, and testing establishing that the motor vehicle is a low-emission motor vehicle and that the safety level of the vehicle is not lowered unreasonably by exemption from the standard.

(4) if the application is made under subsection (b)(3)(B)(iv) of this section, a detailed analysis showing how the vehicle provides an overall safety level at least equal to the overall safety level of nonexempt vehicles.

(d) Eligibility. – A manufacturer is eligible for an exemption under subsection (b)(3)(B)(i) of this section (including an exemption under subsection (b)(3)(B)(i) relating to a bumper standard referred to in subsection (b)(1)) only if the Secretary determines that the manufacturer's total motor vehicle production in the most recent year of production is not more than 10,000. A manufacturer is eligible for an exemption under subsection (b)(3)(B)(ii), (iii), or (iv) of this section only if the Secretary determines the exemption is for not more than 2,500 vehicles to be sold in the United States in any 12- month period.

(e) Maximum period. – An exemption or renewal under subsection (b)(3)(B)(i) of this section may be granted for not more than 3 years. An exemption or renewal under subsection (b)(3)(B)(ii), (iii), or (iv) of this section may be granted for not more than 2 years.

49 U.S.C. § 30113(b)-(e). Second, section 30118 permits exemptions from the recall requirement

under certain circumstances. Section 30118 reads, in pertinent part:

> (d) Exemptions. – On application of a manufacturer, the Secretary shall exempt the manufacturer from this section if the Secretary decides a defect or noncompliance is inconsequential to motor vehicle safety. The Secretary may take action under this subsection only after notice in the Federal Register and an opportunity for any interested person to present information, views, and arguments.

49 U.S.C. § 30118(d).

In this case, the parties agree on at least two propositions: that NHTSA's implementing regulations 49 U.S.C. § 30113(b)(3)(B)(ii) are set forth in 49 C.F.R. § 555 and that Intermodal was not claiming an entitlement to an exemption from the Safety Act's recall provisions. The dispute is whether 49 C.F.R. § 556.4, governing exemptions for inconsequential defects, is part of the regulations that implement 49 U.S.C. § 30113. Intermodal believes that section 30113 allows for temporary exemptions as a result of inconsequential defects, as set forth in 49 C.F.R. § 556.4. Consistent with its July 2, 2004 letter, NHTSA maintains that 49 C.F.R. § 556 governs only exemptions from 49 U.S.C. § 30118's duty to recall noncompliant vehicles.

Intermodal's contention stems, in the Court's view, from a misreading of the legislative history of the various acts of Congress that implemented section 556.4. Intermodal insists that section 556.4 must implement 49 U.S.C. § 30113 because the original act of Congress that implemented section 556.4 has been repealed and section 30113 is the only provision in the Safety Act governing exemptions. Intermodal states:

> . . . § 556 itself states that it was implemented pursuant to 15 U.S.C. § 1417, which was repealed on July 5, 1994, pursuant to P.L. 103-272, §7(b), 108 Stat. 1379. (See Exhibit "A" attached hereto, which is a copy of the first page of § 556). The only statute which currently exists governing exemptions from Federal Motor Vehicle Safety Standards ("FMVSS") is 49 U.S.C. § 30113. Therefore, for this Regulation to be valid, § 556 must be implementing § 30113.

Pl.'s Resp. Br. at 2.

As NHTSA points out, the agency, in 1977, promulgated 49 C.F.R. § 556, *see* 42 Fed. Reg. 7145 (Feb. 7, 1977) under the authority set forth in 15 U.S.C. § 1417, the National Traffic and Motor Vehicle Safety Act. Section 556 was "to establish procedures that will implement the legislative mandate of section 157 of the National Traffic and Motor Vehicle Act." 42 Fed. Reg. 7145. In 1994, a recodification occurred. Congress repealed Department of Transportation laws codified in Title 15 of the United States Code while at the same time adopting the very same laws without substantive change in Title 49 of the Code. *See* Pub. L. 103-272, §7(b), 108 Stat. 745, 941, 1379 (July 5, 1994).

A House of Representatives report noted the change and contained a master disposition table revealing the former sections of Title 15 and their corresponding new section designations under Title 49. *See* H. Rep. 103-180, Table 1A, pp. 499 *et seq.* (1994). The table specifies that 15 U.S.C. § 1417, the provision that 49 C.F.R. § 556 implemented, was recodified, in relevant part, at 49 U.S.C. § 30118(d). Although the Code of Federal Regulations was not changed to reflect the recodification, the only conclusion the Court can draw is that section 556 implements 49 U.S.C. § 30118(d). Since section 30118(d) applies only under circumstances where a recall is contemplated, 49 C.F.R. § 556.4 implements that section, and Intermodal concedes it is not seeking an exemption from the recall provision, NHTSA could not have acted arbitrarily and capriciously in confining its review to 49 U.S.C. § 30113 and that section's implementing regulations set forth at 49 C.F.R. § 555.

IV.

The Court concludes after reviewing the administrative record in this case that NHTSA's decision denying Intermodal's application for an exemption from the warning light requirements of Safety Standard 121 was not arbitrary or capricious. The agency did not rely on factors not stated in the regulations in making its determination, it properly relied on the reasonable opinions of its experts, and appropriately construed Intermodal's petition as seeking an exemption under 49 U.S.C. § 30113(b)(3)(B)(ii).

Accordingly, it is **ORDERED** that the plaintiff's motion for summary judgment [dkt # 13] is **DENIED**, the defendants' motion for summary judgment [dkt # 16] is **GRANTED**, and the case is **DISMISSED WITH PREJUDICE**.

It is further **ORDERED** that the defendants' motion for leave to file documents [dkt # 26] is **GRANTED** based on the parties' stipulation at oral argument.

s/Thomas L. Ludington
THOMAS L. LUDINGTON
United States District Judge

Dated: July 24, 2007

PROOF OF SERVICE

The undersigned certifies that a copy of the foregoing order was served upon each attorney or party of record herein by electronic means or first class U.S. mail on July 24, 2007.

s/Tracy A. Jacobs
TRACY A. JACOBS